

We claim:

1. A system for enhanced removal of organic particles from wastewater streams flowing from oil and gas wells, said wastewater stream comprising at least a portion of an overall fluid stream flowing from said oil and gas wells, the system comprising:
- 5 a) a flotation unit;
- b) a cellulose-based, organic adsorptive filter media fluidly coupled to said flotation unit,

where said oil and gas well wastewater stream sequentially flows first through said flotation unit and then through said cellulose-based filter media.

- 10 2. The apparatus of Claim 1, further comprising a sock-type filter fluidly coupled to said cellulose-based filter media upstream of said cellulose-based filter media.
3. The apparatus of Claim 2, further comprising a carbon-element filter disposed in said wastewater stream downstream of said cellulose-based filter media.
4. The apparatus of Claim 1, wherein said wastewater stream comprises at least a portion of the fluid stream flowed out of an oil and gas well following chemical stimulation of said oil and gas well.
- 15 5. The apparatus of Claim 1, wherein said wastewater stream comprises at least a portion of the fluid stream flowed out of an oil and gas well following completion of said oil and gas well.
- 20 6. A system for enhanced removal of organic contaminants from wastewater streams generated from transmission pipeline operations, the system comprising:
- a) a flotation unit;
- b) a cellulose-based, organic adsorptive filter media fluidly coupled to said flotation unit,

where said wastewater stream sequentially flows first through said flotation unit and then through said cellulose-based filter media.

7. The apparatus of Claim 6, further comprising a sock-type filter fluidly coupled to said cellulose-based filter media upstream of said cellulose-based filter media.

5 8. The apparatus of Claim 7, further comprising a carbon-element filter disposed in said wastewater stream downstream of said cellulose-based filter media.

9. The apparatus of Claim 6, wherein said wastewater stream comprises at least a portion of the fluid stream flowed out of an oil and gas well following chemical stimulation of said oil and gas well.

10 10. The apparatus of Claim 6, wherein said wastewater stream comprises at least a portion of the fluid stream flowed out of an oil and gas well following completion of said oil and gas well.

11. A method for removing organic contaminants from a wastewater stream, said wastewater stream comprising at least a portion of an overall fluid stream flowing from an oil and gas well, comprising the steps of:

a) providing an apparatus comprising:

i) a flotation unit;

ii) a cellulose-based, organic adsorptive filter media fluidly coupled to said flotation unit;

b) fluidly coupling said apparatus to said wastewater stream;

c) flowing said wastewater stream through said apparatus and monitoring an organic content of said wastewater stream discharged from said apparatus, to ensure a discharged organic level within a desired range; and

d) routing said wastewater stream to an ultimate disposal location.